

A METHOD FOR DETERMINING VISION DEFECTS AND FOR COLLECTING
DATA FOR CORRECTING VISION DEFECTS OF THE EYE BY
INTERACTION OF A PATIENT WITH AN EXAMINER AND APPARATUS
THEREFOR

ABSTRACT OF THE DISCLOSURE

There is now provided a method for determining vision defects and for collecting data for correcting vision defects of the eye. The method comprises projecting an image into the eye of the patient with an adaptive optical system having adaptive optical elements. The optical characteristics of the optical elements can be individually changed by an electrical signal. The presence of distortions of the image as perceived by the patient is determined by interaction of the patient with the examiner. By way of an electronic control system the optical characteristics of the adaptive optical elements are changed through outputting of an electrical signal to obtain a modified image with minimized distortions in the eye of the patient. The optical characteristics of the adaptive optical elements, as modified, are determined and vision correcting data for the eye being examined are computed from the optical characteristics of the adaptive optical elements, as modified. The method not only takes into consideration the aberrations of the optical imaging system but also the properties of reception and signal processing in the human brain. The method is further characterized in that the correction data for the aberrations of the human eye that impair the vision can be obtained by a measuring method that is actively physiologically evaluated beforehand. There is also provided an apparatus for determining vision defects and for collecting data for correcting vision defects.